



CLASSIC Series | TCM 0650 Coriolis Mass Flow Meter

FEATURES

- Robust, no moving parts for long life
- Custom flow connectors & installation lengths
- Excellent repeatability (± 0.05 % of flow rate)
- High pressure option: 345 bar [5,000 psi]¹⁾

BENEFITS

- ▶ Increased productivity, lower maintenance
- ▶ Lower installation cost
- ▶ Increased product quality
- ▶ Broad applications: dosing, paint, chemical injection

FLOW RATE

Mass Flow Rate (max.): 650 kg/h [24 lb/min]
 Volumetric Flow Rate (max.): 650 l/h [2.86 gpm, 98 oil bbl/d (US)]
 Nominal Meter Size: DN4 [$\frac{1}{8}$ "]

PRESSURE RATING

200 bar [2,900 psi]
 (option: up to 345 bar [5,000 psi])¹⁾

ACCURACY (LIQUIDS)²⁾

Basic Accuracy (Mass Flow)³⁾: ± 0.3 % (option: up to ± 0.1 % of flow rate)
 Repeatability (Mass Flow): ± 0.05 % of flow rate
 Basic Accuracy (Volume Flow)³⁾: ± 0.3 % (option: up to ± 0.15 % of flow rate)
 Repeatability (Volume Flow): ± 0.05 % of flow rate
 Zero Stability: ± 0.01 % of full scale

ACCURACY (GASES)

Basic Accuracy (Mass Flow)³⁾: ± 1 % (option: up to ± 0.5 % of flow rate)
 Repeatability (Mass Flow): ± 0.25 % of flow rate

DENSITY

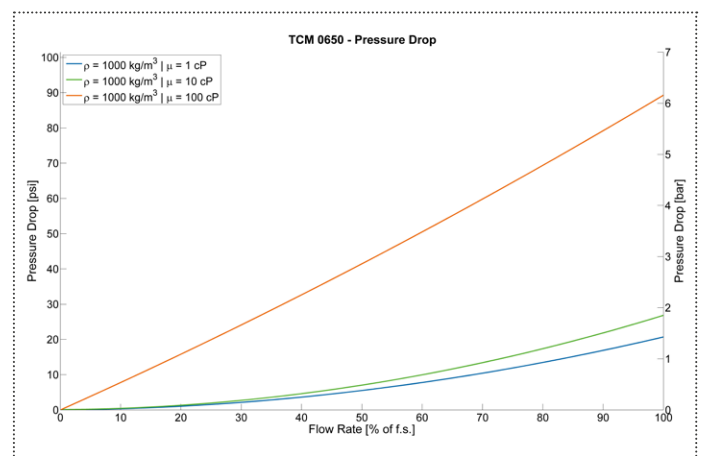
Density Range: up to 2,500 kg/m³ [2.5 g/cm³]
 Density Accuracy³⁾: ± 1.0 kg/m³ [± 0.001 g/cm³]
 Density Repeatability: ± 0.5 kg/m³ [± 0.0005 g/cm³]

TEMPERATURE

Process Temperature Range: -40 °C ... +100 °C [-40 °F ... +212 °F]
 Option: -60 °C ... +200 °C [-76 °F ... +392 °F]
 Temperature Accuracy: ± 1 °C ± 0.5 % of reading
 [± 1.8 °F ± 0.5 % of reading]
 Temperature Repeatability: ± 0.2 °C [± 0.36 °F]

MATERIALS (WETTED PARTS)

Tubes: 1.4404 [AISI 316L]
 Case: 1.4404 [AISI 316L]
 Flow Splitter: 1.4404 [AISI 316L]
 Brazing Alloy: BNi-2



¹⁾ The 200 bar standard pressure rating is per ASME. The 345 bar option is non-ASME rated.

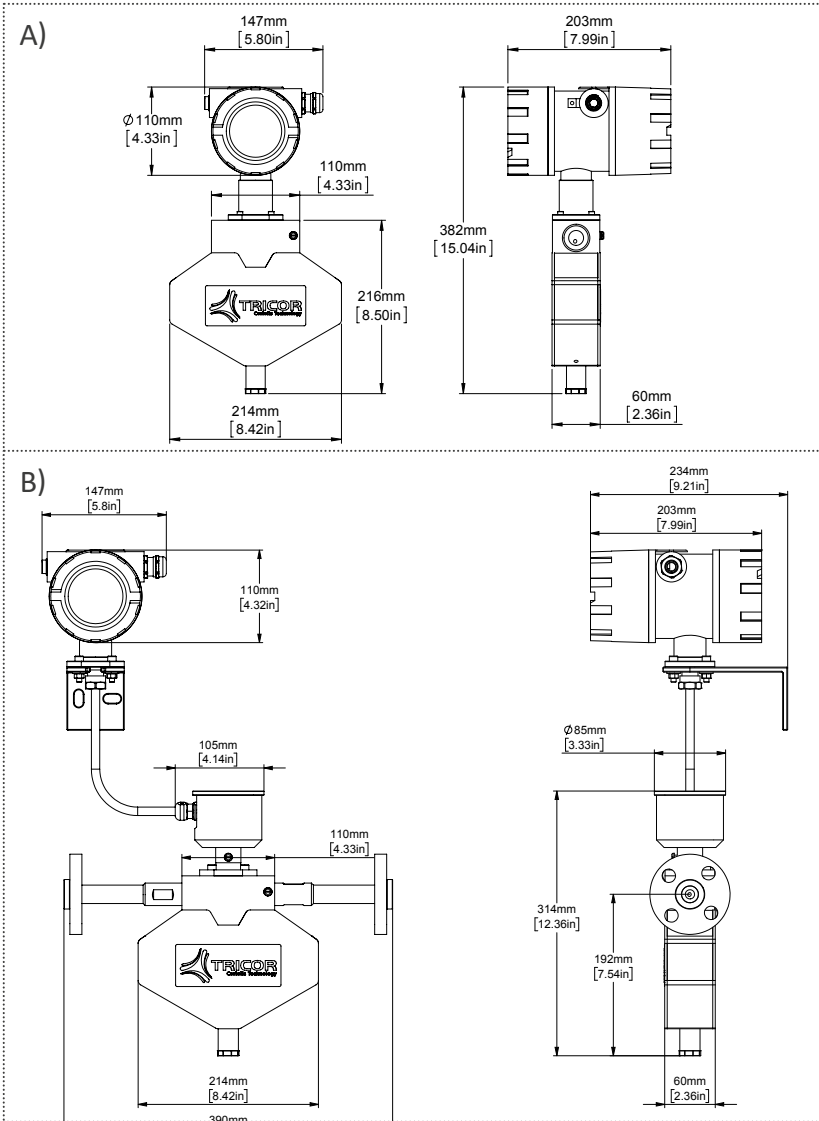
²⁾ Stated flow accuracy combines the effects of repeatability, linearity and hysteresis.

³⁾ The specifications refer to standard conditions (for further information see TCM CLASSIC series manual).





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METER DIMENSIONS⁴⁾ AND WEIGHTS

A) Compact Version

Weight: 7 kg [15.4 lb]

With meter mount in aluminum diecast housing

B) Remote Version

Weight: 8.3 kg [18.3 lb]

With junction box and remote field mount

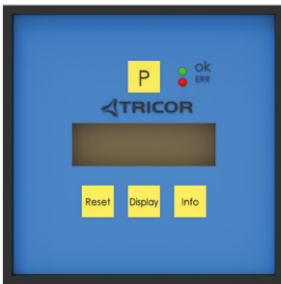
Standard Process Connection

G $\frac{1}{2}$ " thread (others on request)

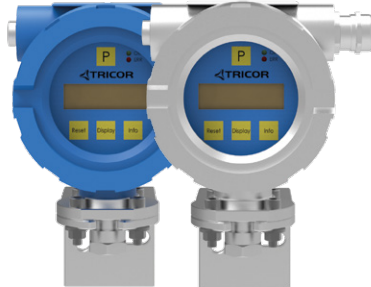
APPROVALS & CERTIFICATIONS

ATEX Zone 1 IECEX	Compact version: II 2G Ex db ia IIC T4 Gb Remote version⁶⁾: Sensor: II 1G Ex ia IIC T4...T2 Ga Transm.: II 2(1)G Ex db [ia Ga] IIC T4 Gb
Atex Zone 2 cCSAus ⁵⁾	All versions: II 3G Ex nA IIC T4 Compact version: Kl. 1, Div. 1, Gruppe A-D: T4 (US, Can) Ex db ia IIC T4 Gb (Can) Remote version⁶⁾: Sensor: Kl. 1, Div. 1, Gruppe A-D: T4...T2 (US, Can) Ex ia IIC T4...T2 Ga (Can) Transm.: Kl. 1, Div. 1, Gruppe A-D: T4 (US, Can) Ex db [ia Ga] IIC T4 Gb (Can)
EAC (TR-CU)	Compact version: 1Ex d [ia] IIC T4 Remote version⁶⁾: Sensor: 1Ex ia IIC T4...T2 X Transm.: 1Ex d [ia] IIC T4
KGS (Korean)	Compact version: Ex d [ia] IIC T4 Remote version⁶⁾: Sensor: Ex ia IIC T4 Transm.: Ex d [ia] IIC T4

PANEL MOUNT⁷⁾



REMOTE MOUNT⁸⁾



ELECTRONICS

Power Supply:	24 V DC or 100 ... 240 V AC (version dependent)
Outputs:	Analog, Frequency, Pulse, Status
Interfaces:	RS485 RTU (Modbus), HART [®]
Cable Gland:	M20 $\frac{1}{2}$ " NPT

⁴⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

⁵⁾ For cCSAus the electronic is only available in aluminum housing.

⁶⁾ Only wall mounting, not panel mounting.

⁷⁾ Weight: 0.4 kg [0.88 lb].

⁸⁾ Weight with aluminum diecast housing: 3.8 kg [8.4 lb] with 3 m cable, Weight with 1.4404 [AISI 316L] housing: 6.15 kg [13.56 lb].

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